

LAMARCK AS METEOROLOGIST.

The most original and eminent of French naturalists, Jean de Lamarck (born 1744, died 1829) devoted himself in early life to the study of the atmosphere. In 1776 he published a paper "On Atmospheric Vapors."

A letter of reminiscences by his son William, written in 1865 is published in *Science*¹ from which we quote the following:

My father loved to penetrate untrodden fields, he avoided paths too clearly marked out; for him accident was a word empty of meaning; he believed that in Nature all things were subject to laws as certain as mathematics; but to discover them one must observe the facts, make comparisons, and admit only the explanation which was in concord with all the facts observed. The study of meteorology attracted his attention; he gave himself up to it with the more zeal, since it was a science still in its infancy; a science, as he loved them. For a long time people had, indeed, carried out meteorological observations, but these observations no one had been willing to study or to draw from them deductions. My father wished to undertake this task.

There was then in the Ministry of the Interior an intelligent man, a distinguished scientist, Chaptal, who approved the project of my father. He created for him an office in his ministry, and furnished him with correspondents at different points thruout the country. My father wished to keep the public in touch with the progress which he would have made in the study undertaken by him, and to this end published a meteorological yearbook in which he had the unfortunate idea of including both memoirs purely scientific and probabilities of the weather to come. This was intended to help along the sale of the work, but it furnished also a weapon for his critics. The astronomers of the Bureau of Longitude, furious to see a naturalist exploit a field which they believed belonged to them, hastened to avail themselves of this weapon; they transformed "probabilities" into "predictions," and upon this ground they made a great outcry. A member of the Institute to play the part of a Mathieu Lansberg! * * * They petitioned the emperor [Napoleon] to cause such a scandal to be stopt. The emperor was a member of the Institute and this was not one of the titles of which he was least proud. At a public reception he apostrophized my father sharply on this subject and concluded by telling him, that botany should be kept within its proper bounds. ("La botanique! A la bonne heure.") From that time the ministry deprived my father of his office and his correspondents and stopt the publication of the meteorological yearbook. Thus it was that the reprimand of a sovereign before whom the entire world trembled, succeeded in placing outside of the scientific pale an old man who petitioned no one, who lived retired, and who sought for nothing but the advancement of human knowledge.

GEORGE W. HOUGH. 1836—1909.

By Prof. HENRY CREW. Dated Evanston, Ill., January 20, 1909.

On New Year's Day of the current year, 1909, the science of meteorology sustained a distinct loss by the death of Prof. George W. Hough, who more than a generation ago devised some very clever self-recording instruments, and who for full twenty years had given a course in meteorology and astronomy at Northwestern University.

George Washington Hough was born at Scribes Hill, Montgomery County, New York, on the 24th of October, 1836; graduated B. A. from Union College in 1856; married in 1870, and died at his home in Evanston, Ill., on the first day of the current year (1909).

Upon leaving college Professor Hough taught for a year or so in the schools of Dubuque, Iowa, and afterward he pur-

sued graduate work in Harvard College; so that his serious astronomical work did not begin until 1859, when he accepted appointment as assistant astronomer in the Cincinnati Observatory, then justly celebrated on account of its powerful glass and its eloquent director, Gen. O. M. Mitchel.

At the end of his first year in Cincinnati came promotion to the directorship of the Dudley Observatory, Albany, N. Y., where he succeeded the late Dr. B. A. Gould.

His fourteen years of residence in Albany, 1860—1874, constitute a period during which his inventive genius was at its best. It was here that his printing barometer was brought out in 1865. This instrument gives two graphical records of the barometric height on different scales, and also prints with a type-wheel the reading of the barometer, at the end of each hour, to the nearest thousandth of an inch. It was about this time also that his self-recording thermometer and anemograph were devised. In the "Annals of the Dudley Observatory," vol. 2, Albany, 1871, may be found a description of these instruments, together with a continuous hourly record from the printing barograph for a period of five years. In 1871 he perfected his now well-known printing chronograph for recording very minute intervals of time.

An interval of five years, between 1874 and 1879, was devoted to commercial pursuits.

The latter of these dates marks his appointment as the successor of Prof. T. H. Safford, to the directorship of the Dearborn Observatory at Chicago, a post which he was destined to honor for the succeeding thirty years. The year 1879 also marks the beginning of his micrometric study of the surface of the planet Jupiter, which within a few years made him a leading authority on this subject.

His work on double stars, of which he discovered no less than 648, had its beginning in 1881. The difficulty and importance of many of these objects, as well as the observational skill which he brought to bear upon them, amply justify the rare compliment which Prof. Eric Doolittle—himself an observer of high rank—has recently paid to Professor Hough, by remeasuring the entire list of his 648 stars.

Only one binary, "δ Equulei" of Otto Struve, is known to be more rapid than Professor Hough's No. 212—"13 Ceti."—which has a period of seven years.

In 1888 the Dearborn Observatory was removed from Chicago to Evanston; a new dome was to be designed. That fine mechanical sense which had already enabled him to do much for the instrumental side of his science, now led Professor Hough to invent a roller-bearing dome and a most excellent observing chair which have been copied in many important observatories.

Professor Hough never considered class-room teaching as his chief function. Yet no student ever left his lecture with the recollection of an unkind word or of an explanation that was not clear.

Sham and ostentation were foreign to his nature. In simplicity of life, accuracy of scholarship, singleness of purpose, and kindness of heart, his friends will all remember him as a worthy example.

¹ *Science*, January 24, 1908, 27:151-2.